AMENDMENTS

Amendments to the Claims:

The following listing of claims will replace all previous listings and versions thereof:

Listing of Claims:

1.-13. (cancelled)

14. (currently amended) A purified human nucleic acid molecule comprising a nucleic acid sequence selected from the group consisting of:

(a) the nucleic acid sequence of SEQ ID NO:65, which encodes an alpha subunit of a sodium channel;

(b) a nucleic acid sequence encoding the alpha subunit of the sodium channel of SEQ ID NO:67;

~~(b)~~(c) a full length complement of (a) or (b); ~~and~~

~~(c)~~(d) a nucleic acid sequence encoding an alpha subunit of a sodium channel ~~having at least 95% identity~~ which hybridizes under high stringency conditions to the full length nucleic acid sequence of (a) or (b), wherein said high stringency conditions comprise a hybridization at 65°C in 5 x SSC, 5 x Denhardt's solution, 1% SDS, and 100 µg/ml denatured salmon sperm DNA; and

(e) a full length complement of (d);

(f) a nucleic acid encoding

wherein said human nucleic acid molecule of (a), (b) or (d) comprises a mutation selected from the group consisting of:

(i) a deletion mutation which deletes a codon corresponding to asparagine at position 43 of SEQ ID NO:67; and

(ii) a G to A mutation corresponding to an isoleucine at amino acid 1035 of SEQ ID NO:67 instead of a valine at amino acid 1035 of SEQ ID NO:67,

15.-16. (cancelled)

17. (previously presented) A vector comprising any one of the nucleic acids of claim 14.

18.-19. (cancelled)

20. (previously presented) An isolated cell comprising the vector of claim 17.

21.-22. (cancelled)

23. (currently amended) The purified nucleic acid of claim 14, wherein said nucleic acid molecule comprises the nucleic acid sequence of SEQ ID NO:65 and wherein said human nucleic acid molecule comprises a mutation selected from the group consisting of:

(i) a deletion mutation which deletes a codon corresponding to asparagine at position 43 of SEQ ID NO:67; and

(ii) a G to A mutation corresponding to an isoleucine at amino acid 1035 of SEQ ID NO:67 instead of a valine at amino acid 1035 of SEQ ID NO:67.

24. (previously presented) The purified nucleic acid of claim 14, wherein the presence of said nucleic acid in a sample of a subject indicates that the subject has an increased risk of idiopathic generalized epilepsy.

25.-28. (cancelled)

29. (new) The purified human nucleic acid molecule of claim 14, comprising a nucleotide sequence selected from the group consisting of:

(a) a nucleic acid sequence encoding the alpha subunit of the sodium channel of SEQ ID NO:67; and

(b) a full-length complement of (a);

wherein said human nucleic acid molecule of a) comprises a mutation selected from the group consisting of:

(i) a deletion mutation which deletes an asparagine at position 43 of SEQ ID NO:67; and

(ii) a G to A mutation which translates into an isoleucine instead of a valine at position 1035 of SEQ ID NO:67.

30. (new) A vector comprising any one of the nucleic acids of claim 23.

31. (new) An isolated cell comprising the vector of claim 30.

32. (new) A vector comprising any one of the nucleic acids of claim 29.

33. (new) An isolated cell comprising the vector of claim 32.

34. (new) A purified human nucleic acid molecule comprising a variant of the nucleic acid sequence of SEQ ID NO:65, wherein the variant has (i) a mutation corresponding to a three nucleotide deletion of an AAT triplet starting 126 nucleotides from an initiator codon at nucleotide 633 of SEQ ID NO:65 or (ii) a mutation corresponding to a substitution of a G nucleotide 3,102 nucleotides from an initiator codon at nucleotide 633 of SEQ ID NO:65, wherein the nucleic acid encodes a sodium channel.

35. (new) A purified human nucleic acid molecule comprising a variant of the nucleic acid sequence of SEQ ID NO:65 comprising (i) a deletion mutation which deletes a codon corresponding to asparagine at position 43 of SEQ ID NO:67; or (ii) a G to A mutation corresponding to an valine to isoleucine at amino acid 1035 of SEQ ID NO:67.